

WHAT IS CLAIMED IS:

1 1. A method for operating a digital versatile disk (DVD) system, the
2 method comprising steps of:
3 reading first digital information from a DVD player;
4 decompressing the first digital information to create second digital
5 information;
6 storing the second digital information;
7 manipulating the second digital information in order to produce third
8 digital information different from the second digital information; and
9 displaying the third digital information.

1 2. The method of claim 1, further comprising steps of:
2 analyzing the first digital information; and
3 determining motion information between a plurality of frames in the first
4 digital information.

1 3. The method of claim 1, wherein the manipulating step comprises a
2 step of image processing a first frame in order to produce a second frame different from
3 the first frame.

1 4. The method of claim 1, wherein the decompressing step comprises
2 steps of:
3 parsing the first digital information which includes an MPEG video
4 stream; and
5 decoding the MPEG video stream to create the second digital information
6 which includes a plurality of video frames.

1 5. The method of claim 1, wherein the manipulating step comprises
2 one of the following steps: enhancing contrast, controlling luminescence, correcting
3 color, correcting gamma, sharpening images, adjusting color saturation, zooming a block,
4 embossing images, posterizing images, and warping images.

1 6. A DVD system for manipulating information stored on a DVD,
2 comprising:
3 a DVD player which produces a plurality of digital frames;

- 4 a buffer which stores at least one digital frame;
- 5 a media processing subsystem which manipulates the plurality of digital
- 6 frames to produce a plurality of processed frames; and
- 7 a video display which displays the plurality of processed frames.

1 7. The DVD system of claim 6, wherein the media processing
2 subsystem performs one of the following operations on the digital frames in order to
3 produce the processed frames: enhancing contrast, controlling luminescence, correcting
4 color, correcting gamma, sharpening images, adjusting color saturation, and zooming a
5 block.

1 8. The method of claim 6, wherein the producing step comprises one
2 of the following steps: embossing images, posterizing images and warping images.

1 9. The DVD system of claim 6, wherein the processed frames are
2 displayed at a rate of at least twenty-four frames per second.

1 10. The DVD system of claim 6, further comprising means for
2 converting the processed frame into a format compatible with the video display.

1 11. The DVD system of claim 6, wherein the media processing
2 subsystem comprises a plurality of media processors.

1 12. The DVD system of claim 11, wherein each media processor
2 comprises a central processing unit and a processing buffer.

1 13. A method for processing digital video in real-time, the method
2 comprising steps of:

- 3 reading a compressed data stream;
- 4 obtaining first motion information between a first plurality of frames
- 5 associated with the compressed data stream;
- 6 decompressing the compressed data stream in order to produce a second
- 7 plurality of frames; and
- 8 producing a first output frame related to the second plurality of frames and
- 9 the first motion information.

1 14. The method of claim 13, further comprising steps of:

2 reading a new frame from the compressed data stream;
3 discarding an old frame from the first plurality of frames;
4 organizing the new frame and the first plurality of frames minus the old
5 frame to form a third plurality of frames;
6 obtaining second motion information between the third plurality of frames;
7 and
8 producing a second output frame related to the third plurality of frames
9 and the second movement information.

1 15. The method of claim 14, further comprising a step of displaying the
2 first and second output frames at a rate of at least twenty-four frames per second.

1 16. The method of claim 13, wherein the reading step comprises a step
2 of reading an MPEG data stream from a DVD drive.

1 17. The method of claim 13, wherein the decompressing step
2 comprises a step of executing a software decompression algorithm on a media processing
3 subsystem.

1 18. The method of claim 13, further comprising a step of producing
2 multiple samples for a pixel using information from the first plurality of frames.

1 19. The method of claim 13, wherein the producing step comprises one
2 of the following steps: enhancing contrast, controlling luminescence, correcting color,
3 correcting gamma, sharpening images, adjusting color saturation, and zooming a block.

1 20. The method of claim 13, wherein the producing step comprises one
2 of the following steps: embossing images, posterizing images, and warping images.

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